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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/623,977	09/11/2000	Peter James Hughes	36-1359	1871

7590 10/03/2003

Nixon & Vanderhye  
8th Floor  
1100 North Glebe Road  
Arlington, VA 22201-4714

EXAMINER
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FOSTER, ROLAND G

ART UNIT	PAPER NUMBER
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2645

DATE MAILED: 10/03/2003

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Please find below and/or attached an Office communication concerning this application or proceeding.

**Office Action Summary**

Application No.

09/623,977

Applicant(s)

HUGHES, PETER JAMES

Examiner

Roland G. Foster

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 11 September 2000.
- 2a) ☐ This action is **FINAL**.                      2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1-15 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-15 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on \_\_\_\_\_ is: a) ☐ approved b) ☐ disapproved by the Examiner.
- If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

**Priority under 35 U.S.C. §§ 119 and 120**

- 13) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. ☒ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- \* See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
- a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

**Attachment(s)**

- |   |   |
|---|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)                   | 4) <input type="checkbox"/> Interview Summary (PTO-413) Paper No(s). _____. |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)          | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449) Paper No(s) _____. | 6) <input type="checkbox"/> Other: _____.                                   |

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**DETAILED ACTION**

***Information Disclosure Statement***

Certain copies of information associated the prior PCT prosecution were included in this application but fail to comply with 37 CFR 1.98(a)(1), which requires a list of all patents, publications, or other information submitted for consideration by the Office. The information has been placed in the application file, but the information referred to therein has not been considered.

***Claim Rejections - 35 USC § 102***

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless -

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

Claims 1-8 and 10-14 are rejected under 35 U.S.C. 102(b) as being anticipated by U.S. Patent No. 5,617,539 to Ludwig et al. ("Ludwig").

With respect to claim 1, see the following paragraphs for details on how Ludwig discloses particular limitations within the claim.

The limitation "teleconferencing system" reads on Figs. 1, 3, and col. 8, line 66 - col. 9, line 6.

The limitation "conference bridge (100) having a multichannel connection (5) to each of a plurality of terminal equipments" read on Fig. 3, conference bridge 35 which can be implemented at each collaborative media workstation (CMW) 12 (col. 9, lines 40-45). During multimedia teleconferencing, which includes audio conferencing (Figs. 7, 9, and col. 12, lines 6-67) plural audio channels comprising the participants are sent to each participating terminal (Figs. 12A-15B, 17B, col. 13, lines 1-13, and col. 14, lines 15-65).

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The limitation "at least one terminal equipment (10) having means to (15) to separately process each channel to provide a plurality of outputs, each outputs representing one of the other terminal equipments" reads on Figs. 12A-15B and 17B as discussed above. For example, channels B, C, and D are provided to participant A (Fig. 17B). Note that the audio mixing circuitry is part of the conference bridge which is implemented in each terminal (col. 9, lines 40-50 and col. 12, line 63 - col. 13, line 13).

Claim 10 differs substantively from claim 1 in that claim 10 recites a method whose steps are equivalent to the functions performed by the system of claim 1.

With respect to claims 2 and 11, see col. 17, lines 55-60. Using stereo audio to create a "spatial metaphor" for each user is equivalent to creating a space identity corresponding to each user (i.e., a virtual sound source for each user).

With respect to claims 3 and 12, the conference bridge, audio mixing circuitry 38 as discussed above mixes the channels together at each terminal. The mixing circuitry allows each

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participant to hear every other conference participant's audio (active) (col. 13, lines 1-6). The identity and active/idle status of each channel (participant) is also tracked while setting up conference callhandles (col. 22, line 1 - col. 23, line 20).

With respect to claims 4-6 and 13, see col. 13, lines 1-13 where the CMS (terminal) comprises the audio-mixer as discussed above.

With respect to claim 7, see Fig. 35, "Mute" for various participants.

With respect to claims 8 and 14, see col. 15, lines 46-55 and col. 17, lines 9-36. Echo cancellation requires correlating signals between the output and input in order to reduce echo and feedback signal components that are output and then fed back or reflected (echoed) back into the input.

Claims 1 and 10 are rejected under 35 U.S.C. 102(e) as being clearly anticipated by U.S. Patent Application Publication US 2003/0081115 A1 to Curry et al. ("Curry"). For example, see

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the abstract, Figs. 1, 1A, and 3, paragraph 0008, and paragraphs 0031-0045.

***Claim Rejections - 35 USC § 103***

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

Claims 9 and 15 are rejected under 35 U.S.C. 103(a) as being unpatentable over Ludwig as applied to claims 1, 8, 10, and 14 above.

Although Ludwig discloses an adaptive echo canceller producing an echo cancellation signal as discussed above (col. 17, lines 9-36), Ludwig fails to disclose using adaptive filters on each channel and feeding the output into a combiner in order to produce the echo cancellation signal.

However, "Official Notice" is taken that both the concept and advantages of using adaptive filters on each of a plurality

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of channels and feeding the output into a combiner would have been well-known and expected in the art of multi-channel, signal processing systems such as echo cancellers used in a conferencing environment.

Therefore, it would have been obvious to a person of ordinary skill in the art at the time the invention was made to add adaptive filtering on each channel with output fed into a combiner to the adaptive echo canceller disclosed by Ludwig.

The suggestion/motivation for doing so would have been to increase the accuracy and flexibility of adaptive filtering used in an echo canceller by individually adapting each channel because each channel is independent (especially in conferencing environments) and thus has varying levels of feedback and echo.



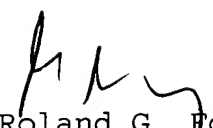
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**Conclusion**

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Roland Foster whose telephone number is (703) 305-1491. The examiner can normally be reached on Monday through Friday from 9:00 a.m. to 5:30 p.m.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Fan S. Tsang, can be reached on (703) 305-4895. The fax phone number for this group is (703) 872-9314.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to customer service whose telephone number is (703) 306-0377.

  
Roland G. Foster  
Patent Examiner  
September 27, 2003